

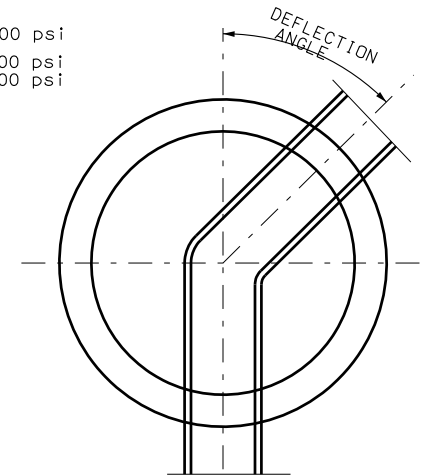
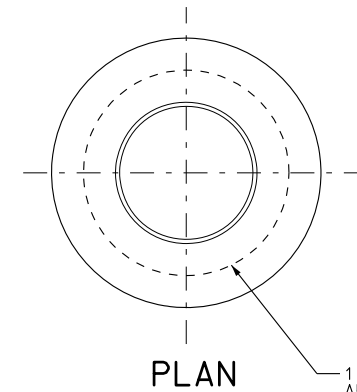
NOTES:

1. USE COATED DEFORMED REINFORCING STEEL BARS CONFORMING TO AASHTO M 284 OR M 111 AND M 31 GRADE 60 RESPECTIVELY.
2. FIELD CUT AND BEND REINFORCING STEEL AS NECESSARY TO CLEAR PIPES AND MAINTAIN 2" COVER. REPAIR ANY DAMAGE OR CUTS TO THE EPOXY COATING ON REINFORCING BARS.
3. USE CLASS AA (AE) CONCRETE.
4. USE TYPE II CEMENT (LOW ALKALI).
5. PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL.
6. PLACE STEPS BEGINNING 2" BELOW FINISH GRADE AND PLACE ADDITIONAL STEPS PER STD DWG GF 6.
7. USE 3", 4", 6", OR 8" GRADE RINGS FOR RISERS. DO NOT EXCEED 12" FOR GRADE RINGS.
8. FOR NUMBER, LOCATION, AND SIZE OF PIPE SEE ROADWAY PLANS.
9. USE 1'-0", 1'-6", 2'-0", 3'-0", AND 4'-0" HIGH MANHOLE SECTIONS.
10. IF THE REQUIRED MANHOLE ADJUSTMENT IS MORE THAN 1'-0", REMOVE THE CONE AND GRADE RINGS AND ADJUST THE MANHOLE ELEVATION WITH THE APPROPRIATE MANHOLE SECTIONS. REPLACE THE CONE SECTION AND GRADE RINGS, AND FRAME AND LID TO MATCH FINISH GRADE.
11. REMOVE DEBRIS FROM MANHOLE AND PIPE INVERTS.
12. REPAIR OR REPLACE MANHOLE SECTIONS, CONES AND GRADE RINGS DAMAGED BY CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER, AT NO COST TO THE DEPARTMENT.
13. FOR RING AND LID SEE STD DWG GF 2.
14. PROVIDE HYDRAULIC CEMENT MORTAR ACCORDING TO ASTM C-185, AND PRECAST MANHOLE SECTIONS PER ASTM C 478.
15. DO NOT OVER EXCAVATE, PLACE 6" MIN. UTBC BEDDING ACCORDING TO SECTION 02721 ON FIRM SUBGRADE. DO NOT USE CRUSHED ROCK IN ACTIVE WATER TABLE WITHOUT APPROVAL OF THE ENGINEER.

DESIGN DATA

HS 20 STANDARD SPECIFICATION FOR HIGHWAY BRIDGES 17TH EDITION.

STRUCTURAL STEEL $F_y = 36,000$ psi
STRUCTURAL CONCRETE $f'_c = 4,000$ psi
 $F_y = 60,000$ psi
 $n = 8$



DIA	MAX. PIPE O.D.	
	45° DEFL	90° DEFL
4'	31"	25"
5'	42"	32"

PRECAST SECTIONS	MAX. HEIGHT
GRADE RINGS	8"
COMBINED GRADE RINGS	18"
CONES	36"
RISERS	48"

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
RECOMMENDED FOR APPROVAL

SALESMAN
RECOMMENDED FOR APPROVAL
CHAIRMAN STANDARDS COMMITTEE
APPROVED
DEPUTY DIRECTOR

STANDARD
MANHOLE

STD DWG
CB 11